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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,204	09/26/2003	Yigal Bejerano	Y. BEJERANO 2-48	8936
47394	7590	10/02/2007		
HITT GAINES, PC ALCATEL-LUCENT PO BOX 832570 RICHARDSON, TX 75083			EXAMINER GUYTON, PHILIP A	
			ART UNIT 2113	PAPER NUMBER
			NOTIFICATION DATE 10/02/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@hittgaines.com

**Office Action Summary**

Application No.

10/672,204

Applicant(s)

BEJERANO ET AL.

Examiner

Philip Guyton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-6,8,10-13 and 15-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8,10-13,15-19 and 21 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20070719</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-6, 8, 10-13, 15-19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by “Optimizing probe selection for fault localization” by Brodie et al. (hereinafter Brodie).

With respect to claim 1, Brodie discloses a system for monitoring link delays and faults in an IP network (abstract – “*We investigate...find a nearly-optimal set*”), comprising:

a monitoring station identifier that computes a set of monitoring stations that covers links in at least a portion of said network (1. Introduction, paragraph 3 – “*To use probes, probing stations must first be selected at one or more locations in the network*”), wherein said set of monitoring stations is a minimal set (4.2 Results, paragraph 3 – “*Although it is sufficient...size of the probe set*” and figure 10); and

a probe message identifier, coupled to said monitoring station identifier, that computes a set of probe messages to be transmitted by at least ones of said set of monitoring stations such that said delays and faults in specific links spanning said set of

monitoring stations can be determined (1. Introduction, paragraph 4 – *“As a first step towards this goal...problems anywhere in the network”*).

With respect to claim 3, Brodie discloses wherein said set of probe messages is a minimal set (2.1 Problem Formulation, paragraph 1 – *“Finding the minimal set of probes...is the number of probes”*).

With respect to claim 4, Brodie discloses wherein said set of monitoring stations covers links in an entirety of said network (3.1 Determining the Initial Probe Set, paragraph 3 – *“A probe can be sent...and send a probe to every node”*).

With respect to claim 5, Brodie discloses wherein said probe messages have a selected one of:

identical message costs, and

message costs that are based on a number of hops to be made by said probe messages (3.1 Determining the Initial Probe Set, paragraph 3 – *“A probe can be sent to any...least-cost) path through the network”*).

With respect to claim 6, Brodie discloses a system for monitoring link delays and faults in an IP network (abstract – *“We investigate...find a nearly-optimal set”*), comprising:

a monitoring station identifier that computes a set of monitoring stations that covers links in at least a portion of said network (1. Introduction, paragraph 3 – *“To use probes, probing stations must first be selected at one or more locations in the network”*); and

a probe message identifier, coupled to said monitoring station identifier, that employs polynomial-time approximation (2.1 Problem formulation, paragraph 1 and 5. Related work, paragraph 3) to compute a set of probe messages to be transmitted by at least ones of said set of monitoring stations such that said delays and faults in specific links spanning said set of monitoring stations can be determined (1. Introduction, paragraph 4 – *“As a first step towards this goal...problems anywhere in the network”*).

Claims 8, and 10-12 are a method as performed by the system of claims 1, and 3-5, and are rejected under the same rationale.

Claim 13 is a method as performed by the system of claim 6, and is rejected under the same rationale.

With respect to claim 15, Brodie discloses a system for monitoring link delays and faults in an IP network (abstract – *“We investigate...find a nearly-optimal set”*), comprising:

a monitoring station identifier that employs polynomial-time approximation algorithms (2.1 Problem formulation, paragraph 1, 4.2 Results, (i) Probe Set Size, (ii) Number of Probe Stations, and 5. Related work, paragraph 3) to compute a set of monitoring stations that covers links in at least a portion of said network (1. Introduction, paragraph 3 – *“To use probes, probing stations must first be selected at one or more locations in the network”*); and

a probe message identifier, coupled to said monitoring station identifier, that employs polynomial-time approximation (2.1 Problem formulation, paragraph 1 and 5. Related work, paragraph 3) to compute a set of probe messages to be transmitted by at

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least ones of said set of monitoring stations such that said delays and faults in specific links spanning said set of monitoring stations can be determined (1. Introduction, paragraph 4 – *“As a first step towards this goal...problems anywhere in the network”*).

With respect to claim 16, Brodie discloses wherein said set of monitoring stations covers links in an entirety of said network (3.1 Determining the Initial Probe Set, paragraph 3 – *“A probe can be sent...and send a probe to every node”*).

With respect to claim 17, Brodie discloses wherein said probe messages have a selected one of:

identical message costs, and

message costs that are based on a number of hops to be made by said probe messages (3.1 Determining the Initial Probe Set, paragraph 3 – *“A probe can be sent to any...least-cost) path through the network”*).

With respect to claim 18, Brodie discloses wherein said minimal set of monitoring stations guarantees delay and fault monitoring of all active links in a presence of at most K-1 failures (3.2 Determining the Diagnostic Power of a Set of Probes, paragraphs 2-3 – *“Since each column is unique...number of probes needed”*).

With respect to claim 19, Brodie discloses wherein said minimal set of monitoring stations always covers said links in said at least said portion of said network (3.1 Determining the Initial Probe Set, paragraph 3 – *“A probe can be sent...a probe to every node*).

With respect to claim 21, Brodie discloses wherein said minimal set of monitoring stations is an optimal set of monitoring stations (4.2 Results, paragraph 3 – “*Although it is sufficient...size of the probe set*” and figure 10).

### ***Allowable Subject Matter***

3. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

4. Applicant's arguments filed 19 July 2007 have been fully considered but they are not persuasive. Regarding claims 1 and 8, applicant argues that Brodie does not disclose wherein the set of monitoring stations is a minimal set, and, more specifically, actually teaches away from this limitation. The examiner respectfully disagrees. Brodie teaches placing probe stations so as to create a balance in costs between probe stations and probes (1. Introduction, paragraph 3 – “*To use probes, probing stations...for probing practitioners*”). Applicant argues that Brodie varies the number and the placement of probe stations, and therefore teaches away from the claimed minimal set of monitoring stations. However, in teaching a variable number of probe stations, Brodie in fact discloses every possible number of probe stations, including the minimal set. Further, Brodie discloses wherein one probe station is sufficient (4.2

Results, paragraph 3 – “*Although it is sufficient to have just one probe station*”), and therefore must be the minimal set.

Regarding claims 6, 13, and 15, applicant contends that Brodie does not teach employing polynomial-time approximations to compute a set of probe messages, and instead teaches dependency matrix formulations. However, this is simply not true. In fact, the use of dependency matrix formulations is not exclusive of the use of polynomial-time approximations. Further, Brodie does teach a polynomial-time approximation, based on a greedy search algorithm (3.3 Finding the Minimal Set of Probes, (iii) Additive (Greedy) Search).

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Guyton whose telephone number is (571) 272-3807. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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9/18/07

  
ROBERT BEAUSOLIEL  
PATENT EXAMINER  
ART UNIT 2100